

iPSC-derived Hepatocytes as Platforms for Research in Viral Hepatitis and Non-alcoholic Steatohepatitis

Grant Award Details

iPSC-derived Hepatocytes as Platforms for Research in Viral Hepatitis and Non-alcoholic Steatohepatitis

Grant Type: Tissue Collection for Disease Modeling

Grant Number: IT1-06563

Project Objective: The project objective was to collect tissues for the iPSC banking initiative from three groups of subjects:

- Shared controls (20 subjects)
- NASH patients (50 subjects)
- Hepatitis C-infected patients (116 subjects)

Investigator:

Name:	Jacquelyn Maher
Institution:	University of California, San Francisco
Type:	PI

Disease Focus: Infectious Disease, Liver Disease, Metabolic Disorders

Human Stem Cell Use: iPS Cell

Award Value: \$814,976

Status: Closed

Progress Reports

Reporting Period: Year 1

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Reporting Period: Year 2

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Reporting Period: Year 3/NCE

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Grant Application Details

Application Title:	iPSC-derived Hepatocytes as Platforms for Research in Viral Hepatitis and Non-alcoholic Steatohepatitis
Public Abstract:	<p>Hepatitis C and fatty liver disease are the two most common liver diseases in California. Individuals from different backgrounds are susceptible to these liver diseases, but they have unique genetic profiles that may influence the severity of disease and the response to specific therapies. Technology now makes it possible to generate stem cells from a person's own skin. These cells can subsequently be used to generate liver cells identical to those from the original donor. Using this approach, scientists can perform research directly on an individual's own liver cells to identify features that make the cells susceptible or resistant to disease and drug therapy. In this project, the research team will collect blood and skin tissue from people with liver disease and from healthy control subjects. The donated tissues will be placed in a "bank" for the production of stem cells. The overall goal is for the donated cells to be made available to scientists who will convert them to liver cells, and then carefully study them to learn more about liver disease. Research such as this is extremely valuable because it allows patients and volunteers to make a very personal contribution to the understanding of liver disease. The materials donated to this tissue "bank" will be a resource to the scientific community for many years.</p>
Statement of Benefit to California:	<p>Hepatitis C and fatty liver disease are the two most common liver diseases affecting the citizens of California. Together they afflict one in every 12 people in the state and kill roughly 4,000 state residents each year. Researchers in California are actively seeking new information about the causes of and treatments for liver disease; their progress will be greatly accelerated by the opportunity to directly study the biology of diseased patients. The goal of this project is to build a "bank" of stem cells from local patients with liver disease. Patient donors will come from many different backgrounds, reflecting the great diversity of California. The bank, once established, will be a tremendous resource for medical research because the banked cells will be renewable and made available to the entire research community. Banked stem cells will enable researchers to study the genetics and biology of liver disease and to test new therapies. Importantly, they will give researchers an opportunity to study liver disease in its most important context - the affected patient. The research made possible through this effort will greatly enhance our understanding of liver disease; this will in turn reduce the negative impact of liver disease on the health and well-being of California residents.</p>

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